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C30B 29/66(21) Application number: **10158048**(22) Date of filing: **05.06.98**(71) Applicant: **OSAKA GAS CO LTD**(72) Inventor:
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YASUDA AYUMI**(54) PRODUCTION OF FUNCTIONAL SILICON MATERIAL****(57) Abstract:**

PROBLEM TO BE SOLVED: To provide a new technique for synthesizing a functional silicon material such as silicon nanotubes, silicon fullerenes, hollow onion-like silicon, hollow onion-like silicon containing a metal or the like in a high yield and in a high purity.

SOLUTION: This method for producing a functional silicon material comprising at least one kind of silicon nanotubes, silicon fullerenes, hollow onion-like silicon

and hollow onion-like silicon containing a metal comprises irradiating and reacting a polysilane material containing at least one kind of Si=Si bonds and Si≡Si bonds with at least one of light, electron beams and ion beams, heating and reacting the polysilane material containing at least one kind of Si=Si bonds and Si≡Si bonds, or subjecting the polysilane material containing at least one kind of Si=Si bonds and Si≡Si bonds to an irradiation treatment and a heating treatment to react the material.

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